

IDAHO DEPARTMENT OF FISH AND GAME

Jerry M. Conley, Director

MAGIC VALLEY STEELHEAD HATCHERY

Annual Report



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by
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Magic Valley Steelhead Hatchery

ABSTRACT

The hatchery started steelhead production in November, 1982. The fish were brought into the hatchery as fingerling, 12 per pound. They were reared on site until the spring of 1983. They were then planted in the Salmon river drainage. A new group of fish were started in the spring of 1983 from eggs taken at the Pahsimeroi hatchery. The new crop consisted of both A and B strain steelhead. A total of 238,000 A strain and 68,000 B strain eggs were received.

An experiment was started with the B strain fish to determine growth and general condition when fed Rangens trout diet versus Clear Springs trout diet.

A Superintendent III change was made during the year. A Superintendent II also was appointed to the station to assist in fish rearing.

Plans have been ongoing for construction of a new steelhead hatchery at this location. Two old 12' x 65' trailer houses were brought on site for temporary quarters for the two permanent personnel. Hatchery final design is to be completed in March of 1984 and construction is to start soon thereafter.

Author

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OBJECTIVES

The objectives of the Magic Valley Steelhead Hatchery are:

1. To hatch and rear to smolt size steelhead trout for planting in the Salmon River drainage. This included 40,681 A strain fish and 94,680 B strain fish.
2. To hatch and begin rearing 238,000 A strain and 68,000 B strain steelhead. These eggs received were from Pahsimeroi spawning station on April 21, 1983.
3. To rejuvenate the hatchery and rearing ponds to a degree where fish rearing is at least possible.
4. To monitor and give assistance where needed to the various planning, surveying and drilling crews in the pre-construction and planning phases of the new hatchery. To give advice and recommendations to our central office when required or asked for in regard to the new hatchery.

INTRODUCTION

Magic Valley Steelhead Hatchery is located 7 miles north and west of Filer in the Snake River canyon. It receives its water from Crystal Springs located in the canyon wall to the north and across the river from the hatchery site. This water is piped via a 36" pipeline laid on the river bottom to the hatchery site on the south bank of the river. The hatchery is now operating on an estimated 40-50cfs. Future water quantities will be developed to an estimated 90-113 cfs. There is considerable more water at present that could be used if necessary. We are spilling at the spring site at present. Water temperature is a near constant 59°F. The water is very good quality water. Oxygen is 10 parts per million at the headrace.

The physical features at the hatchery are:

Two permanent employees (most of this year there was one permanent employee and one temporary employee).
One building combined with office, crew room, feed storage, and shop.
Two 12' x 65' trailer homes.
Twelve raceways measuring 190' x 5' x 24".
Four raceways measuring 320' x 6' x 30".
Two raceways measuring 210' x 10' x 36".
One master valve complex.
Numerous abandoned earthen raceways (these comprised the bulk of the hatchery's original carrying capacity).

FISH PRODUCTION

Fish eggs received at the hatchery were:

Steelhead A strain	238,000
Steelhead B strain	68,000

The eggs were received on April 21, 1983. They hatched on April 26, and the fry reached swim-up on May 9, 1983.

The pilot project of steelhead were received as fish going 12 per pound on arrival. They were received on November 20, 1982. A total of 42,390 A steelhead and 102,816 B steelhead comprised the lot. They were reared from this time until April and May of 1983.

Fish planted from these recipients were 40,681 A steelhead and 94,680 B steelhead.

Pounds of fish planted:

A's	11,100 lbs.
B's	20,900 lbs.
Total	32,000 lbs.

The new crop of fish started in spring of 1983 have contributed 5,825 pounds of fish for a total for the year making a grand total of 25,725 pounds of fish. A total of 145,206 fish were brought to the hatchery from Hagerman National Hatchery at 12 fish per pound. This started the year's production figure at 12,000 pounds. Therefore, deducting this poundage from the 32,000 pounds planted, a total production of 19,900 pounds was achieved. Adding this figure and the new crop figure gives us the total production.

FISH HEALTH

Problems were encountered early on in the fish year. Some losses were suffered soon after the fish arrived from Hagerman National Hatchery. Most losses occurred in the smaller fish in the various groups. Possible cause was attributed to hauling mortalities and the fact that the fish were put in small raceways, whereas they had been in larger raceways. The superintendent here stated in reports that he believed the raceway design and configuration here may have attributed to increased losses. Also more losses were noted in the B group of fish over the A strain. This seems to be consistent with the results at Hagerman National Hatchery. The only disease confirmed from the pathological examinations and reports was a positive confirmation of IPN.

The new groups of fish started from eggs in the spring of 1983 up to the end of the fish year did have minor problems after reaching the 12" - 2" size. The exact diagnosis of a particular disease was never determined from pathologist reports or my own confirmation. Losses were contained to a less than alarming number. I attribute this to the fact that we got on the situation immediately. We treated with Benzylkonium Chloride for bacterial

infection and terramycin for other possible internal organisms. Most losses were suffered in two raceways which were untreated. They recovered slowly with morts slowly tapering off, whereas the treated fish losses dropped off more abruptly.

A positive diagnosis was made from pathologist virology reports of IPN. It appears the fish at this hatchery have had this disease for the past two years and progress well as carriers of the disease. Apparently the fish have developed immunity to this disease, at least for now.

Generally, fish health for this season has been good.

FISH RELEASES

Fish planting started in April of 1983. The A strain fish were planted in the Pahsimeroi River from the Pahsimeroi Hatchery release site. A total of 40,681 were released.

The B strain fish were planted in Allison Creek, Slate Creek and East Fork of the Salmon River. A total of 94,680 B strain were planted.

The A strain fish were planted on April 18 and 19. The B strain fish were planted April 22 through May 6.

FISH FEED UTILIZED

Clear Springs fish feed was used for the greater part of the fish year. The contract was awarded to Rangens Feed Co. in July of 1983. Fish were put on Rangens trout feed from mid-July till the end of the fish year.

A total of 57,700 pounds of feed was used. For all fish feed throughout the year, a feed conversion ratio of 2.24 was achieved. From the 57,700 pounds of fish feed fed, a total of 25,725 pounds of fish was reared.

HATCHERY IMPROVEMENTS

No major improvements have been started at this station this year. A new hatchery is now in the planning stages for initial construction to start in 1984. The Corps of Engineers will be building a hatchery tentatively to rear approximately 2,000,000 steelhead smolts.

During this fish year surveying has been done. Test holes were drilled to measure water tables. A test hole was drilled for the domestic water supply well. Test holes were drilled across the river at the hatchery water supply site for bedrock.

Minor improvements were made with the old hatchery to accommodate of up to 250,000 steelhead. These fish were also a pilot project to actually see how the fish would do at this location and in this water. They were also a pilot to see what fish diseases may be expected to be encountered. So far, it appears as though steelhead will do well. Fish screens, racks and dam boards have had to be repaired and built as needed, especially in regard to screen sizes. This has been difficult because of the discrepancies and irregularities of raceway keyway sizes and squarenesses. Office buildings and feed storage facilities had to be rejuvenated and made usable again. The old hatchery had been vacant for some time and generally dismantled.

SPECIAL STUDIES

A test diet with two raceways of B strain steelhead, 31,098 fish in each raceway, has been ongoing from eggs hatched in April, 1983. One raceway is being fed Rangens trout diet and the other is receiving Clear Springs trout diet. At the close of the fish year no significant difference had been noted. It has been noted that the Clear Springs raceway is consistently more dirty than Rangens. At the time of this writing, December 1, 1983, the Clear Springs fish are going 15 fish per pound versus 11 fish per pound for the fish receiving Rangens diet. Therefore, it appears there will be a significant difference between the two diets.

MISCELLANEOUS ACTIVITIES

These activities consist of a service we perform for the Corps of Engineers. Twice a week we read each of 13 test holes for water table level. Also, a water depth gauge in relation to elevation must be read twice a week. This gauge is installed in the Snake River. These readings are then called into the Walla Walla office at the end of each two week period.

HATCHERY NEEDS

Since a new hatchery is contemplated in 1984, hatchery needs are at a minimum except for maintenance operations.

A new pickup truck for hatchery functions is much in need.

ACKNOWLEDGEMENTS The hatchery staffing during

the year included:

Robert Vaughn, Hatchery Superintendent III
Michael Graham, Hatchery Superintendent II
Bill Doerr, Hatchery Superintendent I Daniel
Hughey, Temporary Laborer
Tim Veil, Temporary Laborer